Ecological Reference Worksheet

Author(s)/participant(s): Santiago L. Misquez **Contact for lead author:** NRCS SW Area Office **Reference site used:** None Used **Date:** 11/30/07 **MLRA:** WP2 **Ecological Site:** R036XB121NM Shallow Sandstone **This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site**

***Indicators*.** For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above- and below-average years, when appropriate & (3) cite data. Continue descriptions on separate sheet.

1. Number and extent of rills: Expect to find few on steeper slopes that should be short and discontinuous

Atarque: 1 to 10% slope, well drained, formed in wind modified, mixed alluvium; permeability is moderate; runoff is rapid and hazard of water erosion is high and of soil blowing is severe.
Bond: 2 to 10% slopes, shallow well drained, permeability is moderate, runoff is medium, hazard for water erosion is moderate, hazard for soil blowing is severe.
Mion: 15 to 65% slopes, shallow well drained, permeability is slow, runoff is rapid, hazard of water erosion is severe, hazard of soil blowing is severe
Rizozo: 5 to 20% slopes, permeability is moderate, runoff is medium, hazard of water erosion is moderate, hazard of soil blowing is severe
Skyvillage: 3 to 40% slopes, permeability is moderately rapid, runoff is medium, hazard of water erosion is moderate, hazard of soil blowing is severe
Winona: 3 to 20 % slopes, formed in alluvium and windblown sediments, perm is moderate, runoff is medium, hazard of water erosion is moderate and wind severe

2. Presence of water flow patterns: Few and occupy <5% of area, broken by rock and gravel cover, highly discontinuous.

3. Number and height of erosional pedestals or terracettes: Few terracettes may be expected along dominant water flow patterns. Pedestals should not be expected.

4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are *not* bare ground): Bare ground in respect to ground cover (average percent of surface area) is approximately 50%, surface gravel 15%, cobble/stone 10%, litter 10%, grasses/forbs 15%. Considerations: climatic conditions, past management.

5. Number of gullies and erosion associated with gullies: None present on this site.
Hazard for water erosion is moderate to severe.

6. Extent of wind scoured, blowouts and/or depositional areas: No blow outs or depositional areas expected for this site. Wind scoured areas may be occasionally found on slopes which the prevailing wind continually disturbs the soil surface.

7. Amount of litter movement (describe size and distance expected to travel): Generally all litter size classes staying in place. Although on slopes >8% small sizes transported in flow paths, occasionally forming litter terracettes following intense rain events.

8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values): Low resistance is expected. Hazard for water erosion is moderate to severe and for wind erosion severe. Expect soil stability values from 1 to 3's.

9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness): Soils are shallow to very shallow over sandstone. Surface textures are medium to coarse and may be stony or gravelly.

Atarque: A-0 to 2 inches; brown (7.5 YR 5/4) fine sandy loam, brown (7.5 YR 4/4) moist; weak fine granular structure; soft very friable, non sticky and non plastic; few medium and fine roots. Depth to bedrock is 8 to 20 inches.

10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Plant community cover (distribution and amount) is reflective of the historic plant community.
+ This site is characterized by relatively moderate production and is dominated by blue grama and sideoats grama. Common, but occurring in lesser amounts, are little bluestem, Indian ricegrass, NM feathergrass, galleta, and sometimes needle and thread. Other characteristic species include sand dropseed, spike dropseed, threeawns, winterfar, Bigelow sagebrush, pinyon, and juniper.

11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): There should be None present on this site.

12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: >>, >, = to indicate much greater than, greater than, and equal to): Perennial warm season mid grasses > Perennial cool season mid grasses > short grasses > shrubs (woody) > perennial forbs> annual forbs;

13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): These two indicators are expected at low levels. Perennial grasses and shrubs that are ageing will demonstrate these indicators.

14. Average percent litter cover (10 %) and depth (0.4 inches). ESD data
+

15. Expected annual production (this is TOTAL above-ground production, not just forage production):
+ 488 lbs/acre Normal precipitation ----700 lbs/acre Favorable precipitation----275 lbs/acre Unfavorable precipitation

Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, "can, and often do, continue to increase regardless of the management of the site and may eventually dominate the site": Deteriorated state: sideoats grama, NM feathergrass, and Indian ricegrass decrease in abundance and blue grama, juniper, and snakeweed increase.

17. Perennial plant reproductive capability: All plants are capable of reproduction. The only limitations are weather related or a natural disease affecting reproduction. Not affected even following several years of prolonged drought period for region.